

Introduced by Senator Maldonado

February 19, 2010

Senate Joint Resolution No. 23—Relative to research for mitochondrial disease.

LEGISLATIVE COUNSEL'S DIGEST

SJR 23, as introduced, Maldonado. Mitochondrial disease: federal support for research.

This measure would urge the President and Congress of the United States to take the action necessary to amend the federal statutes to support research for mitochondrial disease.

Fiscal committee: no.

1 WHEREAS, Mitochondrial diseases result when there is a defect
2 that reduces the ability of the mitochondria in a cell to produce
3 energy. As mitochondria fail to produce enough energy, the cells
4 will cease to function properly and will eventually die. Organ
5 systems will begin to fail, and the life of the individual is
6 compromised or ended; and

7 WHEREAS, Mitochondria are organelles within most human
8 cells that convert oxygen and calories into the energy the cell needs
9 to power activity and sustain human life. If mitochondria
10 malfunction, there is a lack of cellular energy to perform functions
11 and an accumulation of byproducts that may impair or destroy the
12 cell; and

13 WHEREAS, Mitochondrial diseases are a relatively newly
14 diagnosed group of diseases, first recognized in an adult in the
15 1960s and in the 1980s for pediatric onset cases. Mitochondrial

1 diseases are underdiagnosed and the diagnosis of these diseases
2 is extremely difficult; and

3 WHEREAS, Mitochondrial diseases can present themselves at
4 any age, with associated mortality rates that vary depending upon
5 the particular disease. Mitochondrial diseases generally cause
6 progressive deterioration and weakness. The most severe diseases
7 result in progressive loss of neurological and liver function, and
8 death within several years; and

9 WHEREAS, According to the National Institute of
10 Environmental Health Sciences, half of the individuals affected
11 by mitochondrial disease are children. When these children show
12 symptoms before age five, approximately 80 percent will not
13 survive beyond age 20. Researchers estimate that one in 4,000
14 children will develop a mitochondrial disease related to an inherited
15 mutation by age 10, and that 1,000 to 2,000 children born annually
16 in the United States will develop mitochondrial disease in their
17 lifetime; and

18 WHEREAS, There are over 40 mitochondrial diseases, and
19 mitochondrial dysfunction is associated with many disorders
20 including neurological diseases like Parkinson's, Alzheimer's,
21 ALS, and autism, as well as other diseases associated with aging,
22 diabetes, and cancer; and

23 WHEREAS, Mitochondrial diseases are most commonly the
24 result of an inherited or spontaneous genetic mutation, either in
25 the nuclear or mitochondrial DNA. Some mitochondrial diseases
26 have been attributable to environmental factors that interfere with
27 mitochondrial function; and

28 WHEREAS, There is no cure for mitochondrial disease; and

29 WHEREAS, Improving understanding of mitochondrial function
30 and disease has wide potential application to areas of biomedical
31 research. Understanding mitochondrial disease could uncover
32 treatments for a range of serious diseases; and

33 WHEREAS, The United Mitochondrial Disease Foundation has
34 designated the week of February 15 to February 19, 2010, as
35 "CALL TO ACTION" week to encourage support for federal
36 efforts to enact mitochondrial disease research and treatment
37 legislation; and

38 WHEREAS, Pursuant to Assembly Concurrent Resolution No.
39 25 (Res. Ch. 15, 2009) the third full week in September in each
40 year the Legislature has proclaimed Mitochondrial Disease

1 Awareness Week, and has urged Californians to observe the week
2 with appropriate activities and programs; now, therefore, be it

3 *Resolved by the Senate and the Assembly of the State of*
4 *California, jointly,* That the Legislature of the State of California
5 urges the President and Congress of the United States to take the
6 action necessary to amend the federal statutes to support research
7 for mitochondrial disease; and be it further

8 *Resolved,* That the Secretary of the Senate transmit copies of
9 this resolution to the President and Vice President of the United
10 States, to the Speaker of the House of Representatives, to the
11 Senators and Representatives from California in the Congress of
12 the United States, and to the author of this resolution for
13 appropriate distribution.